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10/600,801	06/19/2003	Yuko Nabekura	16869P-078400US	9709

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EXAMINER	
WALTER, CRAIG E	

ART UNIT	PAPER NUMBER
2188	

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/600,801	NABEKURA ET AL.	
	Examiner	Art Unit	
	Craig E. Walter	2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 September 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *5 and 14* is/are allowed.

6)☒ Claim(s) *1,2,4,7,11,12,16 and 20* is/are rejected.

7)☒ Claim(s) *3,6,8-10,13,15 and 17-19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. Claims 1-2, 5-7, 9, 11-12, 14-16, 18 and 20 are amended.

Claims 1-20 are pending in the application.

Claims 1-2, 4, 7, 11-12, 16 and 20 are rejected

Claims 3, 6, 8-10,13, 15, and 17-19 are objected to.

Claims 5 and 14 are allowable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 4 and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Behnke.

As for claim 1, Behnke teaches an information processing device for connecting to one or more external devices, the information processing device comprising:

a storage area configured to store information relating to a predetermined set of external devices, which is referenced when the one or more external devices to be connected to the information processing device are initialized (col. 5, lines 5-16 – when a new drive is auto-

detected, the information obtained from the new drive is compared by referencing the drive table stored in a ROM),

wherein the storage area comprises a first storage area for storing hardware type information including unique information assigned respectively to the predetermined set of external devices (drive table is split into at least two unique sections – the first section contains all of the type information of the available drives (col. 7, lines 36-38)), and a second storage area for storing attribute information corresponding to the unique information assigned respectively to the predetermined set of external devices (col. 8, lines 18-35 – attribute information is stored in a second part of the ROM (namely a different section of the table) which include configuration information (number of sectors, head, cylinders, etc) for each of the predetermined drive types stored in the ROM. In other words (referring to Fig. 5), the drive table is comprised of at least two unique sections which provide the hardware type information (element 506) and attribute information (element 508). The former is used for capacity related information, and the latter for configuration); and

a processor configured to obtain hardware type information and base type information from a connected external device (col. 5, lines 5-10 – the PC (which is operated via the CPU in Fig. 1, element 102) attempts to auto-detect the hardware type information of the drive by referring to the drive table – further, each entry of the table must contain the "base type

information" for each drive. For example, the drive's capacity (col. 6, lines 62-66) is stored in a separate entry in the table. The capacity information of the drive is calculated based on the information obtained from the drive if not already provided in the table (i.e. a new drive is installed that is not recognized by the preset drive table – col. 14, lines 56-63)) and to determine, for initializing the connected external device, whether or not the hardware type information obtained from the connected external device is stored in the first storage area (col. 5, lines 24-29 – the PC can initialize the new device either by recognizing the hardware type information stored in the ROM, or the user can input a custom type when the type information is not found in the table), and if the obtained hardware type information is not stored in the first storage area, to initialize the connected external device by referring to the base type information relating to the connected external device obtained from the connected external device (the capacity information is needed when a user installs a drive. Since the disk capacity information is not provided in the type section of the drive table (col. 14, lines 56-63), the information must be calculated from the drive), and attribute information stored in the second storage area (col. 8, lines 30-43 – when a custom drive type must be selected i.e. when the system is unable to auto-detect the newly installed drive based on comparing the type information in the drive table), the second part of the ROM (the portion of the table which includes configuration information, is referenced

and displayed to the user in order to eliminate confusion when an unrecognized drive is being installed. Note this configuration information is the same attribute information, which includes (number of sectors, head, cylinders, etc)).

As for claim 2, Behnke teaches the information processing device of claim 1, wherein the base type information comprises at least one of a capacity and an emulation type of the connected external device (as described above, the base type information is the capacity information of the connected device).

As for claim 4, Behnke teaches the information processing device of claim 1, wherein the information processing device is a storage control device (the PC (Fig. 1, element 100) is used to auto-detect the configuration of mass storage devices (see abstract), hence is a device for controlling storage), and the one or more external devices are disk devices to be connected to the storage control device (Fig. 3, elements 302 and 304 illustrate external disk drives).

As for claim 11, Behnke teaches a method for controlling initialization of an external device which is to be connected to an information processing device, the method comprising:

obtaining hardware type information and base type information of a connected external device (col. 5, lines 5-10 – the PC attempts to auto-detect the hardware type information of the drive by comparing the obtained information from the referenced drive table);

determining whether or not the obtained hardware type information of the connected external device is present in a storage area of the information processing device for storing information relating to a predetermined set of external devices (col. 5, lines 24-29 – the PC can initialize the new device either by recognizing the hardware type information stored in the ROM, or the user can input a custom type when the type information is not found in the table), wherein the storage area comprises a first storage area for storing hardware type information including unique information assigned respectively to the predetermined set of external devices (drive table is split into at least two unique sections – the first section contains all of the type information of the available drives (col. 7, lines 36-38)), and a second storage area for storing attribute information corresponding to the unique information assigned respectively to the predetermined set of external devices (col. 8, lines 18-35 – attribute information is stored in a second part of the ROM (namely a different section of the table) which include configuration information (number of sectors, head, cylinders, etc) for each of the predetermined drive types stored in the ROM. In other words (referring to Fig. 5), the drive table is comprised of at least two unique sections which provide the hardware type information (element 506) and attribute information (element 508)) and;

if the obtained hardware type information is not stored in the first storage area, to initialize the connected external device by referring to the

base type information relating to the connected external device obtained from the connected external device (the capacity information is needed when a user installs a drive. Since the disk capacity information is not provided in the type section of the drive table (col. 14, lines 56-63, the information must be calculated from the drive)), and attribute information stored in the second storage area (col. 8, lines 30-43 – when a custom drive type must be selected i.e. when the system is unable to auto-detect the newly installed drive based on comparing the type information in the drive table), the second part of the ROM (the portion of the table which includes configuration information, is referenced and displayed to the user in order to eliminate confusion when an unrecognized drive is being installed. Note this configuration information is the same attribute information, which includes (number of sectors, head, cylinders, etc)).

As for claim 12, Behnke teaches the information processing device of claim 11, wherein the base type information comprises at least one of a capacity and an emulation type of the external device (as described above, the base type information is the capacity information of the connected device).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 7, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Behnke, and in further view of Walsh et al., hereinafter Walsh (US Patent 5,430,855).

As for claim 7, Behnke teaches an information processing device for connecting to one or more external devices, the information processing device comprising:

a storage area configured to store information relating to a predetermined set of external devices, which is referenced when the one or more external devices to be connected to the information processing device are initialized (col. 5, lines 5-16 – when a new drive is auto-detected the information obtained from the new drive is compared by referencing the drive table stored in a ROM), wherein the storage area comprises a first storage area for storing hardware type information including unique information assigned respectively to the predetermined set of external devices (drive table is split into at least two unique sections – the first section contains all of the type information of the available drives (col. 7, lines 36-38)), and a second storage area for storing attribute information corresponding to the unique information assigned respectively to the predetermined set of external devices (col. 8, lines 18-35 – attribute information is stored in a second part of the ROM (namely a different section of the table) which include configuration information (number of

sectors, head, cylinders, etc) for each of the predetermined drive types stored in the ROM. In other words (referring to Fig. 5), the drive table is comprised at least two unique sections which provide the hardware type information (element 506) and attribute information (element 508). The former is used for capacity related information, and the latter for configuration).

Behnke however fails to teach comparing the base type information from the external device with hardware information stored in the first storage area, and initializing a connected device using the base type information corresponding to the hardware type information that most closely resembles the obtained hardware type information.

Walsh however teaches a disk drive array memory system, using nonuniform disk drives, which is capable of comparing hardware information (physical characteristics) extracted from the drives in order to initialize drives not matching any of the drives already recognized by the system (see abstract). More specifically, the system begins by configuring the disk drives in a redundancy group into a common drive format, which is representative of the drives contained within the group (col. 4, lines 6-15). The characteristics (base type information) include number of tracks/cylinders, etc for the representative drive (col. 4, lines 14-16). The information extracted from the representative drive is then compared with predetermined characteristic values (i.e. preset characteristics stored in the system) – col. 19, lines 5-14. A common drive format is then selected by comparing the characteristics of the

representative drive, with the predetermined values stored (i.e. looking for the one that matches the lowest value of minimum number of sectors/track) – col. 19 lines 8-23.

It would have been obvious to one of ordinary skill in the art at the time of the invention for Behnke to incorporate Walsh's memory system into his own mass storage system. By doing so, Behnke would benefit by improving the reliability of his memory system by use of redundancy groups of disk drives as taught by Walsh (col. 1, lines 32-36), and further benefit by having a means to overcome the drawback of requiring identical drive types within the redundancy group (Walsh - col. 1, lines 42-45).

As for claim 16, Behnke teaches a method for controlling initialization of an external device which is to be connected to an information processing device, the method comprising:

obtaining hardware type information and base type information of a connected external device (col. 5, lines 5-10 – the PC attempts to auto-detect the hardware type information of the drive by comparing the obtained information from the referenced drive table);

determining whether or not the obtained hardware type information of the connected external device is present in a storage area of the information processing device for storing information relating to a predetermined set of external devices (col. 5, lines 24-29 – the PC can initialize the new device either by recognizing the hardware type information stored in the ROM, or the user can input a custom type when the type information is not found in the table), wherein the storage area comprises a first storage area for storing hardware type

information including unique information assigned respectively to the predetermined set of external devices (drive table is split into at least two unique sections – the first section contains all of the type information of the available drives (col. 7, lines 36-38)), and a second storage area for storing attribute information corresponding to the unique information assigned respectively to the predetermined set of external devices (col. 8, lines 18-35 – attribute information is stored in a second part of the ROM (namely a different section of the table) which include configuration information (number of sectors, head, cylinders, etc) for each of the predetermined drive types stored in the ROM. In other words (referring to Fig. 5), the drive table is comprised at least two unique sections which provide the hardware type information (element 506) and attribute information (element 508)).

Behnke however fails to teach comparing the base type information from the external device with hardware information stored in the first storage area, and initializing a connected device using the base type information corresponding to the hardware type information that most closely resembles the obtained hardware type information.

Walsh however teaches a disk drive array memory system, using nonuniform disk drives, which is capable of comparing hardware information (physical characteristics) extracted from the drives in order to initialize drives not matching any of the drives already recognized by the system (see abstract). More specifically, the system begins by configuring the disk drives in a redundancy group into a common drive format, which is representative of the drives contained within the group (col. 4,

lines 6-15). The characteristics (base type information) include number of tracks/cylinders, etc for the representative drive (col. 4, lines 14-16). The information extracted from the representative drive is then compared with predetermined characteristic values (i.e. preset characteristics stored in the system) – col. 19, lines 5-14. A common drive format is then selected by comparing the characteristics of the representative drive, with the predetermined values stored (i.e. looking for the one that matches the lowest value of minimum number of sectors/track) – col. 19 lines 8-23.

It would have been obvious to one of ordinary skill in the art at the time of the invention for Behnke to incorporate Walsh's memory system into his own mass storage system. By doing so, Behnke would benefit by improving the reliability of his memory system by use of redundancy groups of disk drives as taught by Walsh (col. 1, lines 32-36), and further benefit by having a means to overcome the drawback of requiring identical drive types within the redundancy group (Walsh - col. 1, lines 42-45).

As for claim 20, Behnke teaches the information processing device of claim 16, wherein the base type information comprises at least one of a capacity and an emulation type of the connected external device (as described above, the base type information is the capacity information of the connected device).

Allowable Subject Matter

4. Claims 3, 6, 8-10,13, 15, and 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

As for claim 3 and 13, Behnke teaches the device of claim 1 (and method of claim 11), if the obtained hardware type information is not stored in the first storage area, to initialize the connected external device as a specific one of the predetermined set of external devices with the base type information obtained from the connected external device. He fails however to teach initializing the external device if the base information is the same as or interchangeable with the attribute information of the specific one of the predetermined set of external devices stored in the second storage area.

As for claims 5 and 14, Behnke teaches an information processing device (as in claim 5 and method for claim 14) for connecting to one or more external devices, the information processing device comprising:

a storage area configured to store information relating to a predetermined set of external devices, which is referenced when the one or more external devices to be connected to the information processing device are initialized (col. 5, lines 5-16 – when a new drive is auto-detected the information obtained from the new drive is compared by referencing the drive table stored in a ROM), wherein the storage area comprises a first storage area for storing hardware type information including unique information assigned respectively to the predetermined set of external devices (drive table is split into at least two unique sections

– the first section contains all of the type information of the available drives (col. 7, lines 36-38)), and a second storage area for storing attribute information corresponding to the unique information assigned respectively to the predetermined set of external devices (col. 8, lines 18-35 – attribute information is stored in a second part of the ROM (namely a different section of the table) which include configuration information (number of sectors, head, cylinders, etc) for each of the predetermined drive types stored in the ROM. In other words (referring to Fig. 5), the drive table is comprised at least two unique sections which provide the hardware type information (element 506) and attribute information (element 508). The former is used for capacity related information, and the latter for configuration).

Behnke however fails to teach comparing the base type information from the external device with attribute information stored in the second storage area in order to determine if a match occurs, hence initializing the drive that matches as the one matching external device as claimed by Applicant.

As for claims 8 and 17, though the combined teachings of Behnke and Walsh teach a processor configured to initialize a connected external device by using the base type information corresponding to the hardware type information stored in the first storage area. Further their combined teachings include obtaining stored hardware information, which most closely resembles the obtained hardware type information.

They fail to teach however obtaining hardware information having a matching character string sequence of a preset minimum threshold.

Claims 6, 9-10, 15 and 18-19 further limit claims 5, 8, 14 and 17 respectively therefore they too are deemed allowable.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig E. Walter whose telephone number is (571) 272-8154. The examiner can normally be reached on 8:30a - 5:00p M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (571) 272-4210. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Craig E Walter
Examiner
Art Unit 2188

CEW

REGINALD G. BRAGDON
PRIMARY EXAMINER